HYGIENE AND PUBLIC HEALTH

UNDER THE CHARGE OF
MILTON J. ROSENAU, M.D.,
PROFESSOR OF PREVENTIVE MEDICINE AND HYGIENE, HARVARD MEDICAL SCHOOL, BOSTON, MASS.,
AND
ARTHUR I. KENDALL, PH.D., DR.P.H.,
DEPARTMENT OF PREVENTIVE MEDICINE AND HYGIENE, HARVARD MEDICAL SCHOOL.

Beriberi.—FRASER and STANTON (*Philippine Jour. of Sci.*, 1910, v, 55 to 64) have carried out a series of experiments first upon chickens, then upon human beings, which indicate definite progress along both preventive and curative lines in beriberi. Chickens were fed upon unpolished and polished rice respectively. The chickens receiving polished rice, that is, rice containing no pericarp, developed a typical peripheral neuritis in from sixty to eighty days, while control chickens fed upon unpolished rice remained healthy. The experiments were repeated with similar results. The chickens showing symptoms of neuritis were then fed upon polished rice together with rice polishings, and in many instances fully recovered. Similarly those chickens which were fed upon whole rice and which remained well upon this diet developed polyneuritis when they were fed for a corresponding period upon polished rice. Apparently the process of polishing rice removes something which is necessary in order to maintain health upon a strict rice diet. The experiments were then carried out along similar lines upon human beings, and with the same general results; that is, that those individuals fed upon polished rice developed typical symptoms of beriberi, while those receiving unpolished rice remained well.

On the Etiology of Beriberi.—DEHAAN (*Ibid.*, pp. 65 to 71) has come to similar conclusions as follows: (1) *A* disease described as beriberi, or polyneuritis epidemica bears a very great resemblance in its etiology, prophylaxis, and therapeutics to the polyneuritis which can be artificially produced in animals, principally in fowls. (2) Just as is the case in the latter, the former is almost always the result of eating cleaned rice; that is, rice deprived of the whole of its pericarp, although other articles of food prepared in a similar manner may also cause an outbreak of the disease. (3) The pericarp of the rice and also some parts of the grain are removed in the manipulation by which unhusked rice becomes cleaned rice. Certain constituents of the greatest importance in securing normal nutriment for the peripheral nervous system are lost during this operation. (4) The constituents are neither salts nor nucleins, and (5) their character is still unknown.

Phosphorus Starvation with Special Reference to Beriberi.—HANS ARON (*Ibid.*, pp. 81 to 97) has studied the amount of phosphorus both in the polished and unpolished rice, and has carried out experiments somewhat similar in nature to those just mentioned. His conclusions are: (1) Food stuffs, especially rice, which are relatively poor in phosphorus (phytim), if they are the main or exclusive article of diet for any great length of time, have been shown by various authors to cause beriberi. (2) The process of polishing removes the outer layers from the rice. These are rich in phosphorus, especially soluble organic compounds of that element (phytim). They are food constituents probably of high physiological importance. (3) A diet similar to that which is regarded as the probable cause of beriberi, if exclusively given for any length of time to animals, is not sufficient to keep them in normal health. (4) Polyneuritis has been observed in chickens receiving a food similar to that which is regarded as causing beriberi, viz., white rice. The addition of organic phosphorus in the form of phytim or its salts, considerably, but not entirely, produces a deleterious effect of a diet (white rice) which can produce polyneuritis in chickens.

Lead Poisoning in Illinois.—ALICE HAMILTON (*Jour. Amer. Med. Assoc.*, 1911, No. 61, pp. 1240 to 1244) calls attention to the unprogressive attitude of this country as compared with other countries, particularly those in Europe, concerning the recognition and dangers of lead poisoning. The lack of statistics and legislation in the United States for the control of the lead industries appears to be due largely to the fact that medical men have not taken the interest in the subject that the foreign medical men have, and this unprogressive attitude, it might be remarked parenthetically, is true for many other phases of the great question of occupational hygiene. The manufactures which employ the greatest number of men working in lead are those for white lead, lead smelting, the manufacture of storage batteries, printing establishments, and to a lesser extent those places where lead glazing is done. While it is well known that women are much more susceptible to lead poisoning than men, the statistics of Illinois indicate that very few women are employed in lead industries. The prevention of lead poisoning necessitates a campaign of education among those employed in the lead industries, the study of the conditions by competent investigators, the collection of statistics and presentation of statistics to legislative bodies, together with recommendations for the drafting of suitable laws regulating the manufacture of lead in factories.

Notice to Contributors.—All communications intended for insertion in the Original Department of this JOURNAL are received only *with the distinct understanding that they are contributed exclusively to this* JOURNAL.

Contributions from abroad written in a foreign language, if on examination they are found desirable for this JOURNAL, will be translated at its expense.

A limited number of reprints in pamphlet form, if desired, will be furnished to authors, *provided the request for them be written on the manuscript.*

All communications should be addressed to—

DR. GEORGE MORRIS PIERSOL, 1927 Chestnut St., Phila., Pa., U. S. A.